



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

Orr et al.

**Serial No.:** 09/813,225

**Filed:** March 20, 2001

**For:** REBREATHING METHODS  
INCLUDING OSCILLATING,  
SUBSTANTIALLY EQUAL  
REBREATHING AND NON-  
REBREATHING PERIODS

**Confirmation No.:** 3421

**Examiner:** P. Mallari

**Group Art Unit:** 3735

**Attorney Docket No.:** 2181-4637US  
(01-38)

**Notice of Allowance Mailed:**

June 5, 2006

**NOTICE OF EXPRESS MAILING**

Express Mail Mailing Label Number: EV669813399US

Date of Deposit with USPS: September 1, 2006

Person making Deposit: Brett Hooke

**TRANSMITTAL LETTER**

Mail Stop Issue Fee  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

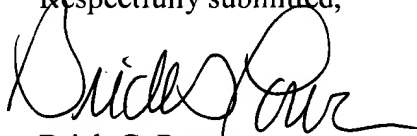
Applicants submit herewith Part B - Fee(s) Transmittal for the above-captioned application and a check in the amount of \$1,700.00 in payment therefor.

Serial No.: 09/813,225

Also, enclosed is an Amendment Pursuant to 37 C.F.R. § 1.312(a) (31 pages), plus attached Replacement Sheets of Drawings (3 sheets) and Annotated Sheets Showing Changes Made (3 sheets); Comments on Statement of Reasons for Allowance (4 pages); and Change of Correspondence Address (1 page).

Applicants understand that no additional fees are required. However, if the Office determines that any comparison fees or other additional fees are required, the Commissioner is authorized to charge any such fees to TraskBritt Deposit Account No. 20-1469. A copy of this Transmittal Letter is enclosed for deposit account charging purposes.

Respectfully submitted,



Brick G. Power  
Registration No. 38,581  
Attorney for Applicant(s)  
TRASKBRITT  
P.O. Box 2550  
Salt Lake City, Utah 84110-2550  
Telephone: 801-532-1922

Date: September 1, 2006  
BGP/ps:eg

Enclosures: Part B - Issue Fee Transmittal  
Check No. 23147 in the amount of \$1,700.00  
Copy of Transmittal Letter  
Amendment Pursuant to 37 C.F.R. § 1.312(a) (31 pages), plus attached  
Replacement Sheets of Drawings (3 sheets) and Annotated Sheets  
Showing Changes Made (3 sheets)  
Comments on Statement of Reasons for Allowance (4 pages)  
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**COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**

Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This communication is filed in response to the Notice of Allowance mailed June 5, 2006 and sets forth Applicants' comments, pursuant to 37 C.F.R. §1.104(e), on the Examiner's Statements of Reasons for the Indication of Allowable Subject Matter.

In the Office Action mailed March 4, 2004, the Examiner indicates:

Regarding claim 42 and 61, the prior art of record fails to teach a method of estimating pulmonary capillary blood flow or cardiac output comprising the steps of evaluating respiration during a first ventilation state, which comprises bi-directional rebreathing, and evaluating respiration during a second ventilation state. Bi-directional rebreathing is defined by the instant specification on pp. 15-16, paragraph 0061.

Regarding claims 46, 49-51, 65, 67-69, 78, 81-83, 95, 97-99, 116, and 118-120, the prior art fails to teach or fairly suggest a method for estimating pulmonary capillary blood flow or cardiac output comprising a step of optimizing a duration of at least a first or a second ventilation state. Optimization of a duration is described by the instant specification on pp. 12-13, paragraph 49.

Regarding claims 48, 66, 80, 96, and 117, the prior art of record fails to teach or fairly suggest a method of determining pulmonary capillary blood flow or cardiac output comprising effecting two ventilation states wherein the transition between the states is gradual. A gradual transition between two ventilation states is described in the instant specification on p. 12, paragraph 47.

Regarding claim 62, the prior art of record fails to teach a method for estimating pulmonary capillary blood flow or cardiac output comprising the steps of evaluating respiration during a first ventilation state, which employs a best-fit line method of rebreathing, evaluating respiration during a second ventilation state immediately following the first ventilation state, and evaluating respiration of the patient during another first ventilation state immediately following the second ventilation state.

Regarding claim 75, the prior art of record fails to teach or fairly suggest a differential Fick technique comprising a first phase inducing an effective ventilation change, a second phase removing the change, and repeating the first and second phases in immediate sequence with one another.

Regarding claims 85-87, the prior art of record fails to teach or fairly suggest a differential Fick technique comprising the steps of inducing a change in effective ventilation for a first duration of time, removing said change for a second duration immediately following the first duration, and repeating said inducing immediately following said second duration of time. The prior art further fails to teach obtaining measurements of at least one respiratory gas and of respiratory flow during all three durations of time.

Regarding claims 100-109, and 111, the prior art of record fails to teach or fairly suggest a method of determining at least one of pulmonary capillary blood flow and cardiac output comprising the steps of inducing a change in effective

ventilation of a patient for a first period of time, removing said change for a second period of time immediately following the step of inducing, and repeating the step of inducing immediately following the second period of time.

In the Office Action mailed April 5, 2005, the Examiner indicates:

Regarding claim 43, the prior art of record fails to teach or fairly suggest a method for non-invasively estimating at least one of pulmonary capillary blood flow and a cardiac output of a subject, wherein evaluating respiration of the subject during the first ventilation state comprises employing a best-fit line method of rebreathing, in combination with all of the other limitations of the claim.

Regarding claim 75, the prior art of record fails to teach or fairly suggest a differential Fick technique, wherein the first and second phases are repeated in immediate sequence with one another, in combination with all of the other limitations of the claim.

It is respectfully submitted that the stated reasons for allowance are inapplicable to several of the claims, as they do not precisely reflect the language recited in the claims (*e.g.*, the term “phases” is used in place of terms and phrases such as “states,” “durations of time,” and “periods of time”).

Moreover, the stated reasons for allowance characterize several of the claims as including “steps.” The use of this term is inappropriate, as the order of the method elements is dictated by limitations that are expressly set forth in the claims, and not necessarily by the order in which the method elements are presented in the claims.

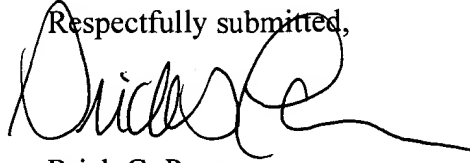
In addition, some of the listed claims are no longer pending in the above-referenced application, while others lack the limitations that have been assigned to them by the stated reasons for allowance.

Further, some of the stated reasons for allowance cite the specification of the above-referenced application. While the portions of the specification that have been cited may provide examples of the claimed subject matter, they should in no way be considered to limit the scope of any claim of the above-referenced application.

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The scope of each claim should be determined by the actual language of that claim and equivalents thereto.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power", with a long horizontal flourish extending to the right.

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Date: September 1, 2006  
BGP/ps:eg  
Document in ProLaw